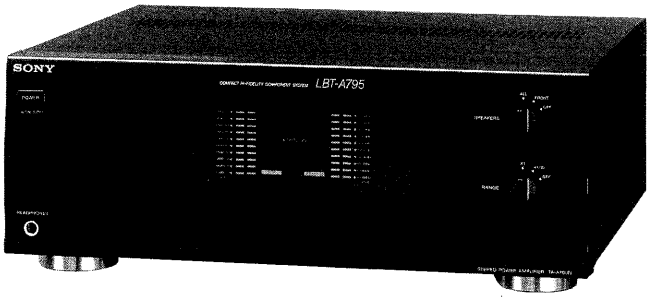
TA-A790N

SERVICE MANUAL

AEP Model
E Model
Australian Model
Tourist Model



This set is the Power Amplifier section in LBT-A790/A795.

SPECIFICATIONS

Peak music power output (6 ohms, 4 speakers driven)	
	900W (MX)
	1,200W (E, EA, SP, MY, JE, AUS)
Continuous RMS power output	
FRONT (AEP, IT, G, CIS)	100 W + 100 W (6 ohms, DIN, 1 kHz)
	120 W + 120 W (6 ohms, at 1 kHz, 5% THD)
FRONT (E, EA, SP, MY, MX, JE, AUS)	125W+125W (6 ohms, at 1kHz, 5% THD)
REAR	20 W + 20 W (4 ohms, DIN, 1 kHz)
	25 W + 25 W (4 ohms, at 1 kHz, 5% THD)
Music power output (AEP, IT, G, CIS)	
FRONT	180 W + 180 W (6 ohms, at 1 kHz, 10% THD)
REAR	33 W + 33 W (4 ohms, at 1 kHz, 10% THD)
Frequency response	
FRONT	15 Hz to 50 kHz $^{+0}_{-3}$ dB
REAR	15 Hz to 50 kHz $^{+0}_{-3}$ dB
Power requirements	220—230V AC, 50/60Hz (AEP, IT, CIS, G)
	240V AC, 50/60Hz (AUS)
	120V/220V/230—240V AC, 50/60Hz (EA, E, JE, MY, SP)
	120V AC, 60Hz (MX)
Power consumption	240W (AEP, IT, CIS, G)
	285W (AUS, EA, E, JE, MY, SP)
	270W (MX)

Mass	Approx. 7.5 kg (16 lbs 8 oz) (AEP, IT, G, CIS, MX)
	Approx. 7.6 kg (16 lbs 12 oz) (E, EA, SP, MY, AUS, JE)
Dimensions	Approx. 355 x 135 x 325 mm ($14 \times 5\,^{5}/_{16} \times 12\,^{13}/_{16}$ inches) (w/h/d, including projections)

Design and specifications are subject to change without notice.

- Abbreviations
  - IT : Italian model
  - G : German model
  - AUS : Australian model
  - EA : Saudi Arabia model
  - JE : Tourist model
  - MY : Malaysia model
  - SP : Singapore model
  - MX : Mexican model

SAFETY-RELATED COMPONENT WARNING!!

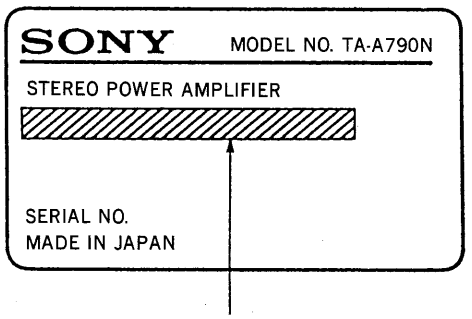
COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

STEREO POWER AMPLIFIER

SONY®

MODEL IDENTIFICATION

—Specification Label—



AEP, IT, CIS model	: AC: 220V—230V~50/60Hz 240W
G model	: SYSTEM LBT-A790 AC: 220V—230V~50/60Hz 240W
AUS model	: AC: 240V~50/60Hz 285W
EA, E, JE, MY, SP model	: AC: 120V/220V/230V—240V~50/60Hz 285W
MX model	: AC: 120V~60Hz 270W

• Abbreviations
IT : Italian model
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EA : Saudi Arabia model
JE : Tourist model
MY : Malaysia model
SP : Singapore model
MX : Mexican model

NOTE FOR SERVICE

To input from the pin jack by using SEN/LBT service jig, connect the SYSTEM CONTROL 3 (white) of TA-A790N and the SYSTEM CONTROL 1 (blue) of the service jig with a 10pin or 11pin system cord. This allows pin input.

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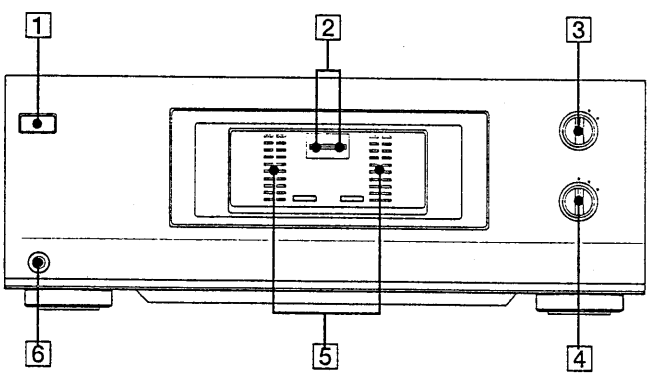
SECTION 1
GENERAL

This section is extracted from instruction manual.

1-1. PARTS IDENTIFICATION

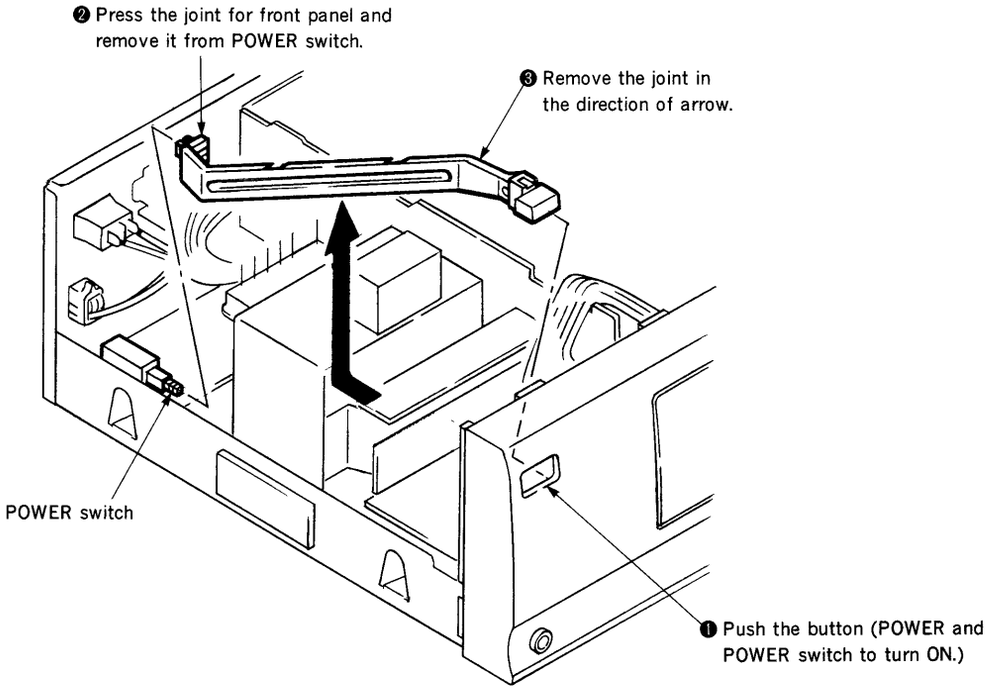


1 POWER switch (20)
2 OPERATION indicators (20)
3 SPEAKERS switch (22)
4 RANGE switch (22)
5 Peak level meters (22)
6 HEADPHONES jack (22)

SECTION 2
SERVICE NOTE

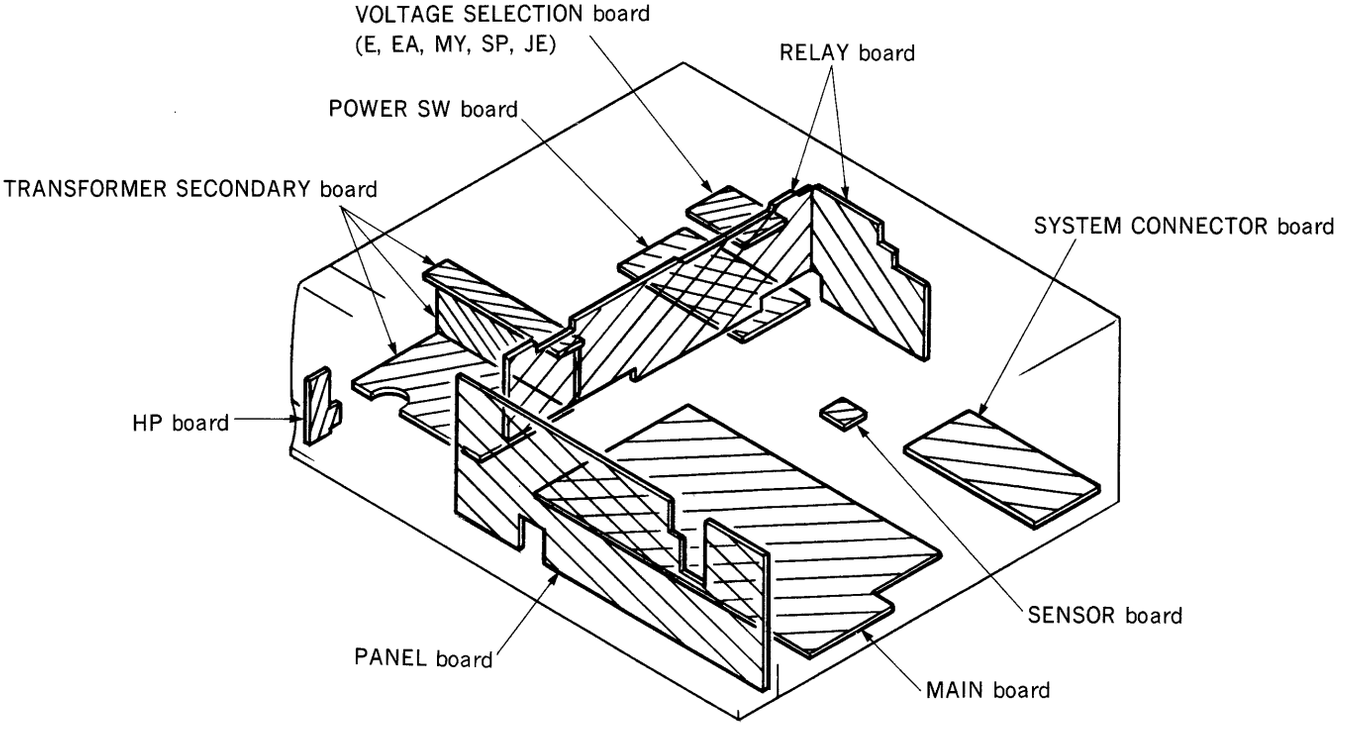
Note : Follow the disassembly procedure in the numerical order given.

2-1. REMOVAL OF JOINT


❷ Press the joint for front panel and remove it from POWER switch.
❸ Remove the joint in the direction of arrow.
POWER switch
❶ Push the button (POWER and POWER switch to turn ON.)

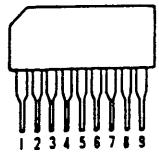
SECTION 3
DIAGRAMS

3-1. CIRCUIT BOARDS LOCATION

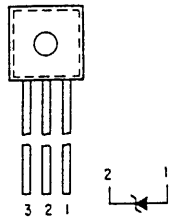


3-2. SEMICONDUCTOR LEAD LAYOUTS

IR2E31A



LM35DZ



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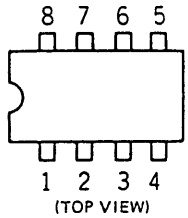

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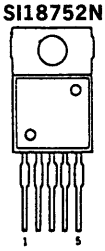
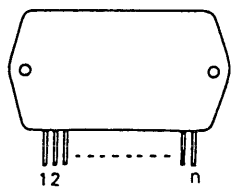
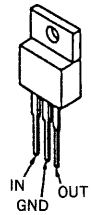


STK-4231MK2



TA7812S



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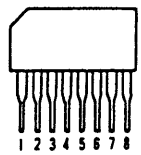
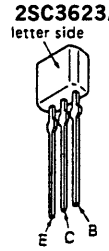
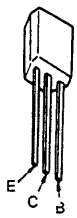


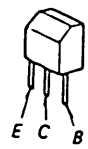
DTA124ES
2SC3623A-LK



DTC124ES
DTC144ES
2SC2603-EF



2SB733-34



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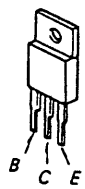
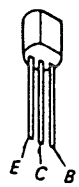
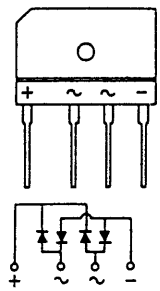


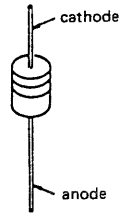
2SC1841-PAFAEA



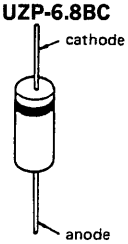
D4SB60L
RBV-602-01



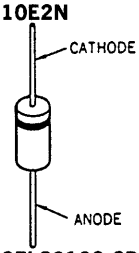
HZS30-2L



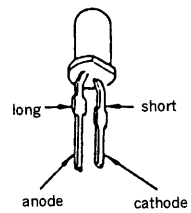
UZP-6.8BC



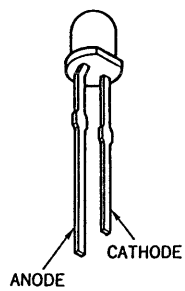
1N4148M
1S1585
10E2N



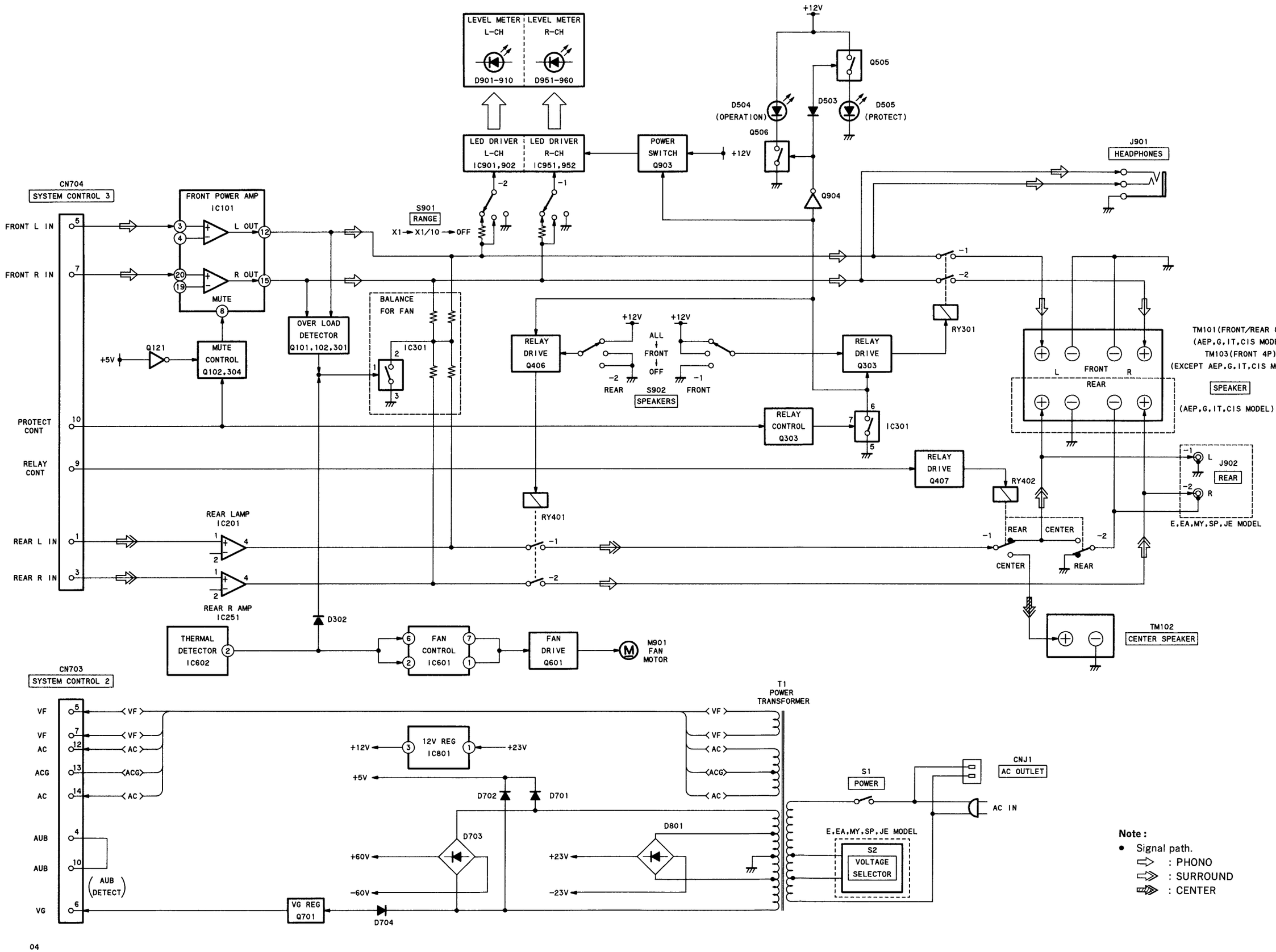
SEL3210S-CD
SEL4227C-D-TP1



SEL3410E-TH12



3-3. BLOCK DIAGRAM

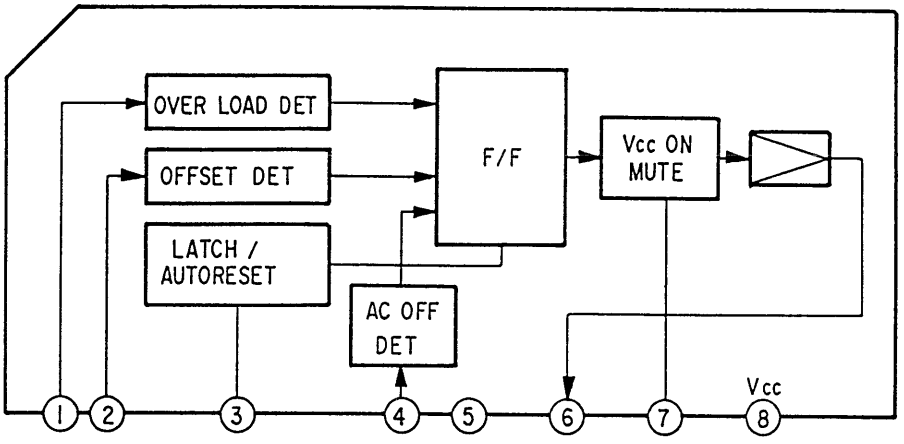


Note :

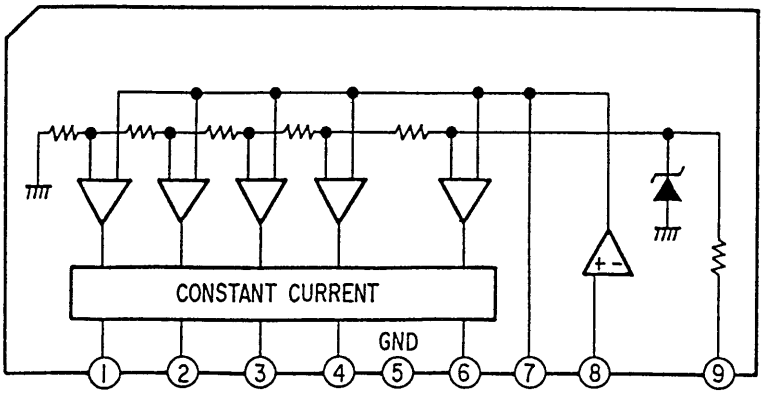
- Signal path.
  - ⇨ : PHONO
  - ⇨ : SURROUND
  - ⇛ : CENTER

• **IC Block Diagrams**

IC301 μPC1237HA



IC901, 902, 951, 952 IR2E31A



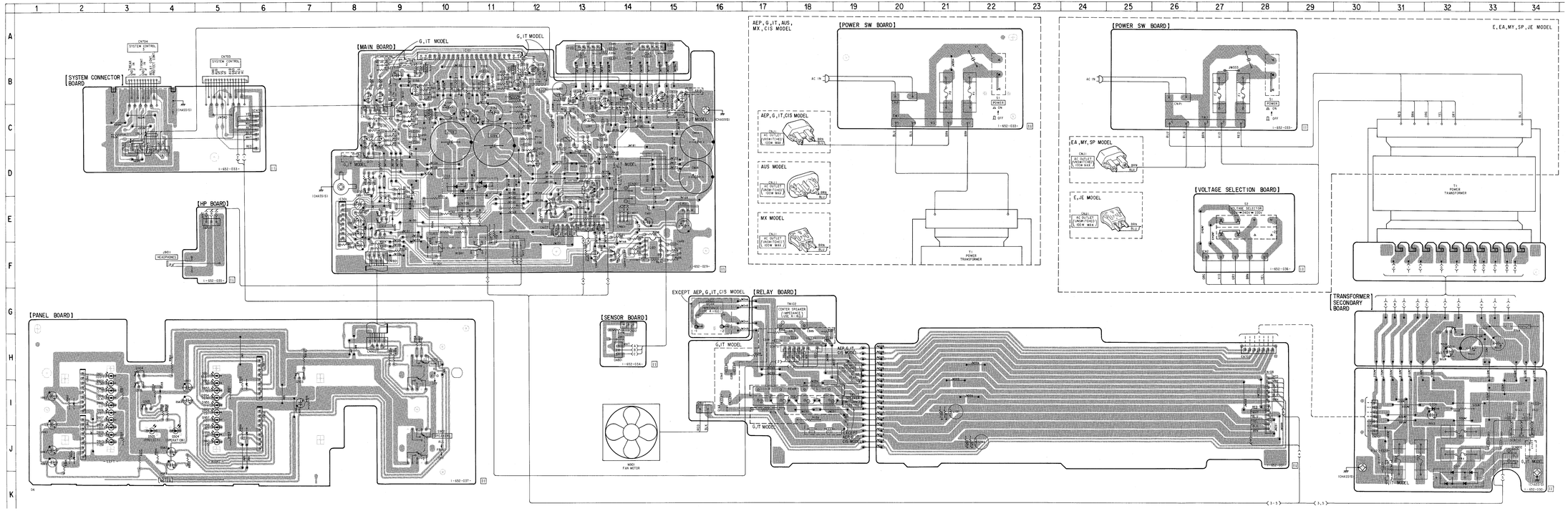
3-4. PRINTED WIRING BOARDS • Refer to page 4 for Semiconductor Lead Layouts.

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	D-12	D956	I-5
D102	C-9	D957	I-5
D301	D-8	D958	J-5
D302	E-9	D959	J-5
D303	F-10	D960	J-5
D304	E-9		
D403	D-13	IC101	A-10
D405	E-12	IC201	A-13
D503	I-4	IC251	A-15
D504	J-4	IC301	E-8
D505	J-4	IC601	F-14
D601	F-13	IC602	G-14
D701	E-9	IC801	E-15
D702	E-9	IC901	I-2
D703	D-10	IC902	J-2
D704	G-33	IC951	H-6
D705	H-32	IC952	I-6
D706	I-32		
D801	K-32	Q101	D-12
D901	H-3	Q102	C-9
D902	I-3	Q120	C-8
D903	I-3	Q121	D-8
D904	I-3	Q301	D-8
D905	I-3	Q302	E-9
D906	I-3	Q303	E-9
D907	I-3	Q304	E-9
D908	J-3	Q406	E-12
D909	J-3	Q407	E-12
D910	J-3	Q505	I-3
D951	H-5	Q506	I-3
D952	I-5	Q601	F-14
D953	I-5	Q701	G-32
D954	I-5	Q903	H-7
D955	I-5	Q904	H-3

Note :

- ○— : parts extracted from the component side.
- ▒▒▒ : Pattern on the side which is seen.
- Abbreviations
  - IT : Italian model
  - G : German model
  - AUS : Australian model
  - EA : Saudi Arabia model
  - JE : Tourist model
  - MY : Malaysia model
  - SP : Singapore model
  - MX : Mexican model



3-5. SCHEMATIC DIAGRAM • Refer to page 7 for IC Block Diagrams.

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note : The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ⊣W⊢ : nonflammable resistor.
- ⊣W⊢ : fusible resistor.
- B+ : B+ Line
- B− : B− Line
- Voltage is dc with respect to ground under no-signal conditions.
- no mark: POWER ON
- Voltages are taken with a VOM (Input Impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : PHONO
  ⇨ : SURROUND
  ⇨ : CENTER
- Abbreviations
  IT : Italian model
  G : German model
  AUS : Australian model
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  MY : Malaysia model
  SP : Singapore model
  MX : Mexican model

【PANEL BOARD】

【MAIN BOARD】

【HP BOARD】

【RELAY BOARD】

【SYSTEM CONNECTOR BOARD】

【SENSOR BOARD】

【TRANSFORMER SECONDARY BOARD】

【POWER SW BOARD】

【POWER SW BOARD】
【VOLTAGE SELECTION BOARD】

【POWER SW BOARD】

* NOT REPLACEABLE : BUILT IN TRANSFORMER

SECTION 4
EXPLODED VIEWS

NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE)... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

- Abbreviations
  G : German model
  IT : Italian model
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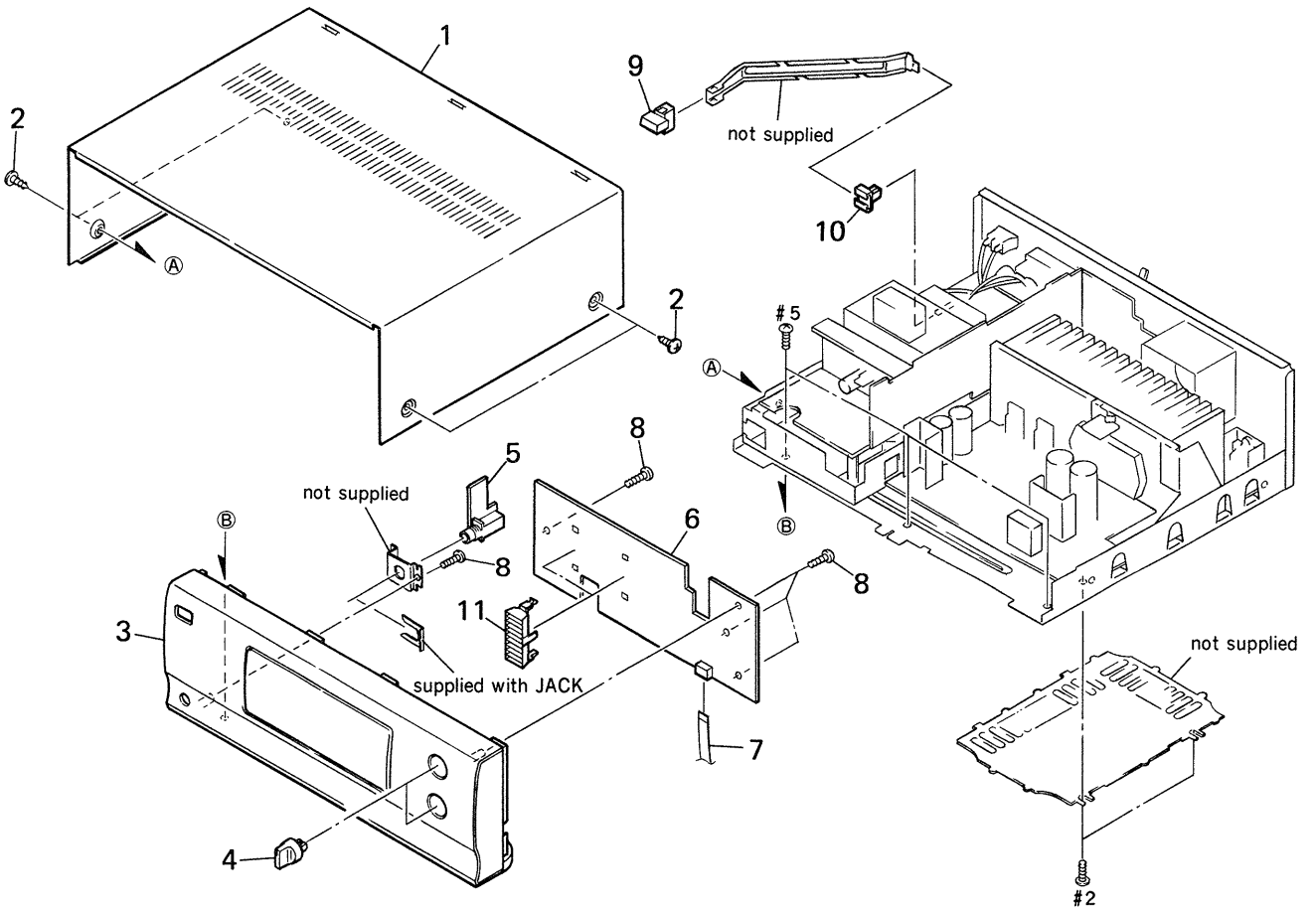
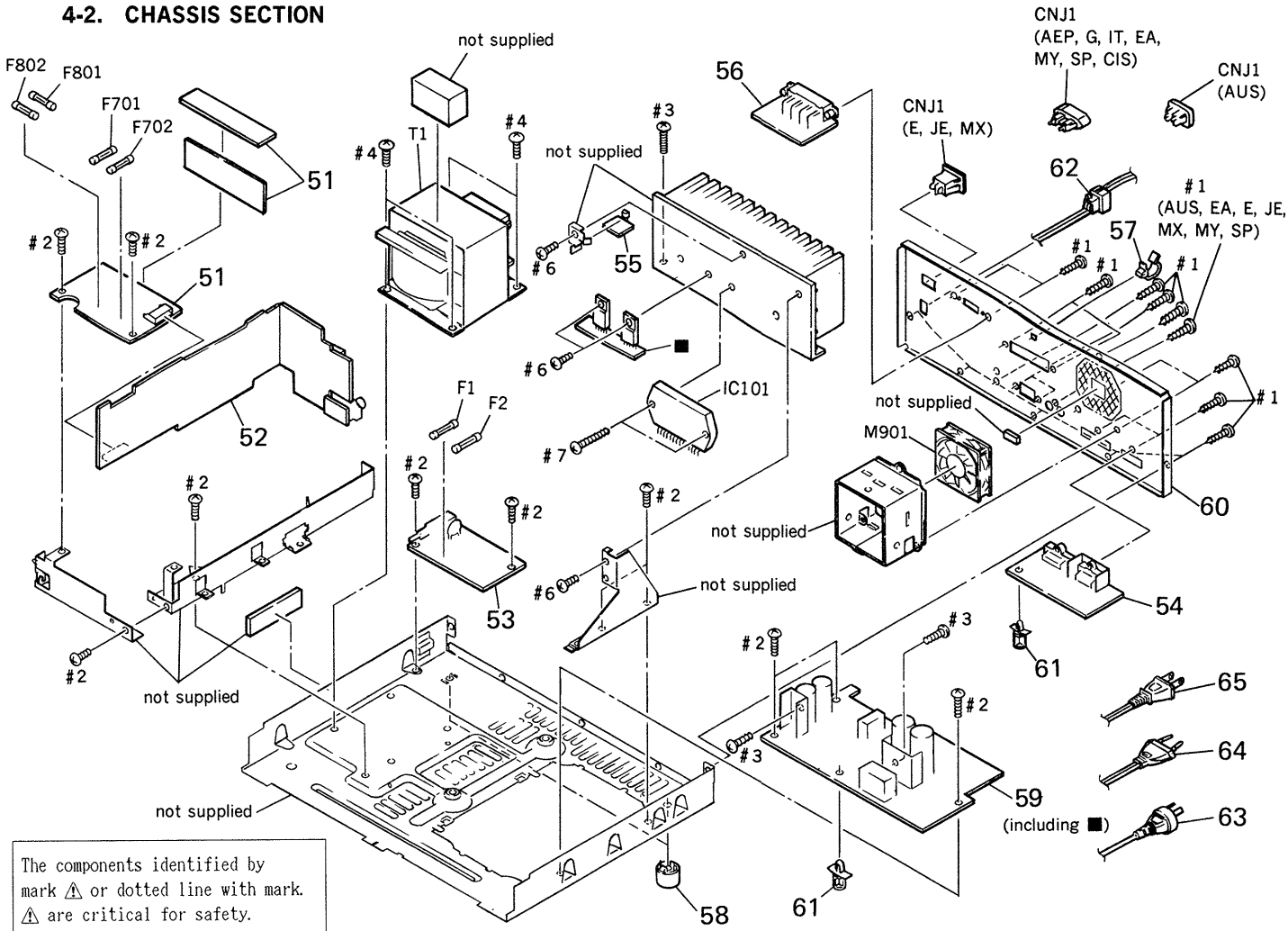
4-1. FRONT PANEL SECTION



Ref. No.	Part No.	Description	Remark
1	4-949-912-91	CASE	
2	3-363-099-01	SCREW (CASE 3 TP2)	
3	X-4944-737-1	PANEL ASSY, FRONT (AEP, E3, G, IT, EA, MY, SP, CIS, JE)	
3	X-4944-738-1	PANEL ASSY, FRONT (E2, AUS, MX, /2:E3)	
4	X-4945-052-1	KNOB ASSY	
* 5	1-652-035-11	HP BOARD	
* 6	A-4369-753-A	PANEL BOARD, COMPLETE	
7	1-590-239-31	WIRE, FLAT TYPE (7 CORE)	
8	4-951-620-01	SCREW (2.6X8), +BVTP	
9	4-964-965-01	BUTTON (POWER)	
10	4-866-342-00	JOINT (B), KNOB	
11	4-965-291-01	HOLDER, LED	

4-2. CHASSIS SECTION



The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	1-652-030-11	TRANSFORMER SECONDARY BOARD	
* 52	1-652-031-11	RELAY BOARD	
* 53	1-652-032-11	POWER SW BOARD	
* 54	1-652-033-11	SYSTEM CONNECTOR BOARD	
* 55	1-652-034-11	SENSOR BOARD	
* 56	1-652-036-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
* 57	4-949-235-01	HOOK	
58	4-931-169-01	FOOT	
* 59	A-4369-729-A	MAIN BOARD, COMPLETE (AEP, MX, CIS)	
* 59	A-4369-730-A	MAIN BOARD, COMPLETE (G, IT)	
* 59	A-4369-732-A	MAIN BOARD, COMPLETE (E, AUS, EA, MY, SP, JE)	
* 60	4-965-289-01	PANEL, BACK (AEP1, IT, CIS)	
* 60	4-965-289-11	PANEL, BACK (AEP2)	
* 60	4-965-289-21	PANEL, BACK (G)	
* 60	4-965-289-41	PANEL, BACK (AUS)	
* 60	4-965-289-52	PANEL, BACK (EA)	
* 60	4-965-289-62	PANEL, BACK (E, JE)	
* 60	4-965-289-71	PANEL, BACK (MY, SP)	
* 60	4-965-289-81	PANEL, BACK (MX)	
* 61	3-350-847-21	HOLDER, PCB	

Ref. No.	Part No.	Description	Remark
* 62	3-703-244-00	BUSHING (2104), CORD (AEP, G, IT, AUS, EA, MY, SP, CIS)	
* 62	3-703-571-11	BUSHING (S) (4516), CORD (E, MX, JE)	
⚠63	1-751-355-11	CORD, POWER (AUS)	
⚠64	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
⚠65	1-575-656-11	CORD, POWER (E, MX, JE)	
⚠CNJ1	1-251-078-11	OUTLET, AC (AC OUTLET) (AUS)	
⚠CNJ1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA, MY, SP, CIS)	
⚠CNJ1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, MX, JE)	
⚠F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
⚠F1	1-532-350-00	FUSE (T4.0AL) (MX)	
⚠F2	1-576-228-31	FUSE (H.B.C.) (T2.0AH)	
⚠F701	1-532-203-00	FUSE (T2.0AL)	
⚠F702	1-532-203-00	FUSE (T2.0AL)	
⚠F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
⚠F802	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
IC101	8-749-921-68	IC STK-4231MK2	
M901	1-698-380-11	MOTOR, FAN (DC)	
⚠T1	1-426-722-11	TRANSFORMER, POWER (AEP, G, IT, CIS)	
⚠T1	1-426-723-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
⚠T1	1-426-857-11	TRANSFORMER, POWER (MX)	

SECTION 5
ELECTRICAL PARTS LIST

HP | MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u:μ, for example:
  uA..: μA.. uPA..: μPA..
  uPB..: μPB.. uPC..: μPC.. uPD..: μPD..
- CAPACITORS
  uF: μF
- COILS
  uH: μH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

- Abbreviations
  MX : Mexican model
  G : German model
  IT : Italian model
  AUS : Australian model
  EA : Saudi Arabia model
  MY : Malaysia model
  SP : Singapore model
  JE : Tourist model

Ref. No.	Part No.	Description			Remark
*	1-652-035-11	HP BOARD			
		********			
		< JACK >			
J901	1-507-796-71	JACK (HEADPHONES)			
**********					
*	A-4369-729-A	MAIN BOARD, COMPLETE (AEP, MX, CIS)			
*	A-4369-730-A	MAIN BOARD, COMPLETE (G, IT)			
*	A-4369-732-A	MAIN BOARD, COMPELTE (E, AUS, EA, MY, SP, JE)			
		**********			
*	4-880-403-11	HEAT SINK			
*	4-942-204-01	PLATE, GROUND			
	7-682-548-04	SCREW +BVTT 3X8 (S)			
		< CAPACITOR >			
C101	1-162-290-31	CERAMIC	470PF	10%	50V
C102	1-126-059-11	ELECT	10uF	20%	50V
C103	1-124-994-11	ELECT	100uF	20%	10V
C104	1-124-572-11	ELECT	100uF	20%	63V
C105	1-124-910-11	ELECT	47uF	20%	50V
C106	1-126-059-11	ELECT	10uF	20%	63V
C107	1-136-163-00	FILM	0.068uF	5%	50V
C108	1-136-163-00	FILM	0.068uF	5%	50V
C109	1-137-399-11	FILM	0.1uF	5%	100V
C110	1-124-791-11	ELECT	1uH	20%	100V
C121	1-126-867-11	ELECT	33uF	20%	50V
C123	1-162-282-31	CERAMIC (G, IT)	100PF	10%	50V
C151	1-162-290-31	CERAMIC	470PF	10%	50V
C152	1-126-059-11	ELECT	10uF	20%	50V
C153	1-124-994-11	ELECT	100uF	20%	10V
C154	1-124-572-11	ELECT	100uF	20%	63V
C155	1-124-910-11	ELECT	47uF	20%	50V
C157	1-136-163-00	FILM	0.068uF	5%	50V
C158	1-136-163-00	FILM	0.068uF	5%	50V
C160	1-124-791-11	ELECT	1.0uF	20%	100V

Ref. No.	Part No.	Description			Remark
C171	1-162-290-31	CERAMIC (G, IT)	470PF	10%	50V
C172	1-162-294-31	CERAMIC (G, IT)	0.001uF	10%	50V
C173	1-162-282-31	CERAMIC (G, IT)	100PF	10%	50V
C174	1-161-377-00	CERAMIC (G, IT)	0.0047uF	20%	16V
C175	1-161-377-00	CERAMIC (G, IT)	0.0047uF	20%	16V
C201	1-126-059-11	ELECT	10uF	20%	50V
C202	1-162-282-31	CERAMIC	100PF	10%	50V
C203	1-162-282-31	CERAMIC	100PF	10%	50V
C204	1-126-049-11	ELECT	22uF	20%	25V
C205	1-136-165-00	FILM	0.1uF	5%	50V
C206	1-136-165-00	FILM	0.1uF	5%	50V
C207	1-136-163-00	FILM	0.068uF	5%	50V
C208	1-136-163-00	FILM	0.068uF	5%	50V
C212	1-162-294-31	CERAMIC (G, IT)	0.001uF	10%	50V
C213	1-164-159-11	CERAMIC (G, IT)	0.1uF		50V
C214	1-162-290-31	CERAMIC (G, IT)	470PF	10%	50V
C215	1-106-367-00	MYLAR	0.01uF	5%	200V
C251	1-126-059-11	ELECT	10uF	20%	50V
C252	1-162-282-31	CERAMIC	100PF	10%	50V
C253	1-162-282-31	CERAMIC	100PF	10%	50V
C254	1-126-049-11	ELECT	22uF	20%	25V
C255	1-136-165-00	FILM	0.1uF	5%	50V
C256	1-136-165-00	FILM	0.1uF	5%	50V
C257	1-136-163-00	FILM	0.068uF	5%	50V
C258	1-136-163-00	FILM	0.068uF	5%	50V
C261	1-106-367-00	MYLAR	0.01uF	5%	200V
C301	1-126-101-11	ELECT	100uF	20%	16V
C302	1-126-101-11	ELECT	100uF	20%	16V
C303	1-124-994-11	ELECT	100uF	20%	10V
C601	1-126-059-11	ELECT	10uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C602	1-164-159-11	CERAMIC	0.1uF		50V
C603	1-164-159-11	CERAMIC	0.1uF		50V
C604	1-136-169-00	FILM	0.22uF	5%	50V
C605	1-136-169-00	FILM	0.22uF	5%	50V
C606	1-126-059-11	ELECT	10uF	20%	50V
C703	1-107-497-51	ELECT	4700uF	20%	63V
C704	1-107-497-51	ELECT	4700uF	20%	63V
C705	1-126-161-11	ELECT	2.2uF	20%	50V
C803	1-126-860-11	ELECT	3300uF	20%	35V
C804	1-126-860-11	ELECT	3300uF	20%	35V
C805	1-124-122-11	ELECT	100uF	20%	50V
C1210	1-126-867-11	ELECT	33uF	20%	50V
		< CONNECTOR >			
* CN101	1-564-508-11	PLUG, CONNECTOR 5P			
* CN103	1-564-507-11	PLUG, CONNECTOR 4P			
* CN105	1-564-337-61	PIN, CONNECTOR 3P			
* CN107	1-564-515-11	PLUG, CONNECTOR 12P			
* CN601	1-564-337-00	PIN, CONNECTOR 3P			
* CN901	1-568-826-11	SOCKET, CONNECTOR 7P			
		< DIODE >			
D101	8-719-815-85	DIODE	1S1585		
D102	8-719-815-85	DIODE	1S1585		
D301	8-719-815-85	DIODE	1S1585		
D302	8-719-987-63	DIODE	1N4148M		
D303	8-719-815-85	DIODE	1S1585		
D304	8-719-987-63	DIODE	1N4148M		
D403	8-719-815-85	DIODE	1S1585		
D405	8-719-815-85	DIODE	1S1585		
D601	8-719-987-63	DIODE	1N4148M		
D701	8-719-987-63	DIODE	1N4148M		
D702	8-719-987-63	DIODE	1N4148M		
D703	8-719-302-38	DIODE	RBV-602-01		
		< IC >			
IC101	8-749-921-68	IC	STK-4231MK2		
IC201	8-759-502-32	IC	SI18752N		
IC251	8-759-502-32	IC	SI18752N		
IC301	8-759-111-68	IC	uPC1237HA		
IC601	8-759-729-03	IC	NJM2903D		
IC801	8-759-231-58	IC	TA7812S		
		< COIL >			
L201	1-420-872-00	COIL, AIR CORE			
L251	1-420-872-00	COIL, AIR CORE			

Ref. No.	Part No.	Description				Remark
		< TRANSISTOR >				
Q101	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q102	8-729-140-84	TRANSISTOR	2SC1841-PAFAEA			
Q120	8-729-900-36	TRANSISTOR	DTC124ES			
Q121	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q301	8-729-900-63	TRANSISTOR	DTA124ES			
Q302	8-729-141-30	TRANSISTOR	2SC3623A-LK			
Q303	8-729-900-89	TRANSISTOR	DTC144ES			
Q304	8-729-900-36	TRANSISTOR	DTC124ES			
Q406	8-729-141-30	TRANSISTOR	2SC3623A-LK			
Q407	8-729-620-05	TRANSISTOR	2SC2603-EF			
Q601	8-729-140-93	TRANSISTOR	2SB733-34			
		< RESISTOR >				
R101	1-249-417-11	CARBON	1K	5%	1/4W	
R102	1-249-438-11	CARBON	56K	5%	1/4W	
R103	1-249-414-11	CARBON	560	5%	1/4W	
R104	1-249-438-11	CARBON	56K	5%	1/4W	
R105	1-249-429-11	CARBON	10K	5%	1/4W	
R106	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R107	1-212-881-11	FUSIBLE	100	5%	1/4W	F
R108	1-249-421-11	CARBON	2.2K	5%	1/4W	
R109	1-249-421-11	CARBON	2.2K	5%	1/4W	
R110	1-249-417-11	CARBON	1K	5%	1/4W	
R111	1-249-431-11	CARBON	15K	5%	1/4W	
⚠R112	1-217-156-00	METAL PLATE	0.22		5W	F
R113	1-249-441-11	CARBON	100K	5%	1/4W	
R114	1-249-397-11	CARBON	22	5%	1/4W	
R116	1-249-438-11	CARBON	56K	5%	1/4W	
R117	1-249-429-11	CARBON	10K	5%	1/4W	
R118	1-247-881-00	CARBON	120K	5%	1/4W	
R119	1-249-437-11	CARBON	47K	5%	1/4W	
R120	1-249-439-11	CARBON	68K	5%	1/4W	
R121	1-249-411-11	CARBON	330	5%	1/4W	
R122	1-249-441-11	CARBON	100K	5%	1/4W	
R123	1-249-426-11	CARBON	5.6K	5%	1/4W	
R124	1-249-433-11	CARBON	22K	5%	1/4W	
R125	1-249-418-11	CARBON	1.2K	5%	1/4W	
⚠R129	1-249-389-11	CARBON	4.7	5%	1/4W	F
R151	1-249-417-11	CARBON	1K	5%	1/4W	
R152	1-249-438-11	CARBON	56K	5%	1/4W	
R153	1-249-414-11	CARBON	560	5%	1/4W	
R154	1-249-438-11	CARBON	56K	5%	1/4W	
R155	1-249-429-11	CARBON	10K	5%	1/4W	
R156	1-249-429-11	CARBON	10K	5%	1/4W	
⚠R157	1-212-881-11	FUSIBLE	100	5%	1/4W	F
⚠R159	1-249-389-11	CARBON	4.7	5%	1/4W	F
R160	1-249-417-11	CARBON	1K	5%	1/4W	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
R161	1-249-431-11	CARBON	15K	5%	1/4W	
⚠R162	1-217-156-00	METAL PLATE	0.22		5W	F
R163	1-249-441-11	CARBON	100K	5%	1/4W	
R164	1-249-397-11	CARBON	22	5%	1/4W	
R166	1-249-437-11	CARBON	47K	5%	1/4W	
R175	1-249-418-11	CARBON	1.2K	5%	1/4W	
R201	1-249-417-11	CARBON	1K	5%	1/4W	
R202	1-249-437-11	CARBON	47K	5%	1/4W	
R203	1-249-417-11	CARBON	1K	5%	1/4W	
R204	1-249-437-11	CARBON	47K	5%	1/4W	
R205	1-249-393-11	CARBON	10	5%	1/4W	
R206	1-249-438-11	CARBON	56K	5%	1/4W	
R207	1-249-393-11	CARBON	10	5%	1/4W	
R251	1-249-417-11	CARBON	1K	5%	1/4W	
R252	1-249-437-11	CARBON	47K	5%	1/4W	
R253	1-249-417-11	CARBON	1K	5%	1/4W	
R254	1-249-437-11	CARBON	47K	5%	1/4W	
R255	1-249-393-11	CARBON	10	5%	1/4W	
R256	1-249-437-11	CARBON	47K	5%	1/4W	
R257	1-249-393-11	CARBON	10	5%	1/4W	
R301	1-249-429-11	CARBON	10K	5%	1/4W	
R302	1-249-441-11	CARBON	100K	5%	1/4W	
R303	1-247-872-11	CARBON	51K	5%	1/4W	
⚠R304	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
⚠R304	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT MX, CIS)	1.8K	5%	2W	F
R305	1-249-437-11	CARBON	47K	5%	1/4W	
R306	1-249-437-11	CARBON	47K	5%	1/4W	
R308	1-249-430-11	CARBON	12K	5%	1/4W	
R309	1-249-411-11	CARBON	330	5%	1/4W	
R310	1-249-441-11	CARBON	100K	5%	1/4W	
R311	1-249-417-11	CARBON	1K	5%	1/4W	
⚠R406	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
⚠R406	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R407	1-249-437-11	CARBON	47K	5%	1/4W	
R408	1-249-437-11	CARBON	47K	5%	1/4W	
⚠R409	1-216-457-00	METAL OXIDE (AEP, G, IT, MX, CIS)	1.2K	5%	2W	F
⚠R409	1-216-458-11	METAL OXIDE (EXCEPT AEP, G, IT, MX, CIS)	1.8K	5%	2W	F
R410	1-249-429-11	CARBON	10K	5%	1/4W	
R411	1-249-441-11	CARBON	100K	5%	1/4W	
R504	1-249-417-11	CARBON	1K	5%	1/4W	
R601	1-247-807-31	CARBON	100	5%	1/4W	
R602	1-249-441-11	CARBON	100K	5%	1/4W	
R603	1-249-439-11	CARBON	68K	5%	1/4W	
R604	1-249-417-11	CARBON	1K	5%	1/4W	
R605	1-249-423-11	CARBON	3.3K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R607	1-249-417-11	CARBON	1K	5%	1/4W	
R608	1-249-418-11	CARBON	1.2K	5%	1/4W	
R609	1-249-415-11	CARBON	680	5%	1/4W	
R611	1-249-389-11	CARBON	4.7	5%	1/4W	
R701	1-249-431-11	CARBON	15K	5%	1/4W	
R702	1-249-431-11	CARBON	15K	5%	1/4W	
⚠R810	1-216-470-00	METAL OXIDE	18	5%	3W	F
⚠R811	1-216-470-00	METAL OXIDE	18	5%	3W	F
R1050	1-249-429-11	CARBON	10K	5%	1/4W	
R1060	1-249-429-11	CARBON	10K	5%	1/4W	
R1080	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1090	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1140	1-249-397-11	CARBON	22	5%	1/4W	
R1250	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1550	1-249-429-11	CARBON	10K	5%	1/4W	
R1560	1-249-429-11	CARBON	10K	5%	1/4W	
R1640	1-249-397-11	CARBON	22	5%	1/4W	
R1750	1-249-418-11	CARBON	1.2K	5%	1/4W	

< RELAY >

RY301	1-515-765-11	RELAY	
RY401	1-515-920-11	RELAY (24V)	
RY402	1-515-360-21	RELAY	

****

*	A-4369-753-A	PANEL BOARD, COMPLETE	
		**********	
	4-965-291-01	HOLDER, LED	

< CAPACITOR >

C901	1-126-059-11	ELECT	10uF	20%	50V
C902	1-126-161-11	ELECT	2.2uF	20%	50V
C903	1-126-059-11	ELECT	10uF	20%	50V
C904	1-126-163-11	ELECT	4.7uF	20%	50V
C909	1-126-059-11	ELECT	10uF	20%	50V
C951	1-126-059-11	ELECT	10uF	20%	50V
C952	1-126-161-11	ELECT	2.2uF	20%	50V
C953	1-126-059-11	ELECT	10uF	20%	50V
C954	1-126-163-11	ELECT	4.7uF	20%	50V

< CONNECTOR >

* CN902	1-568-850-11	SOCKET, CONNECTOR 7P	

< DIODE >

D503	8-719-987-63	DIODE	1N4148M
D504	8-719-313-66	LED	SEL3410E-TH12 (OPERATION)
D505	8-719-313-69	LED	SEL3210S-CD (PROTECT)

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

PANEL | POWER SW | RELAY

Ref. No.	Part No.	Description	Remark
D901	8-719-047-87	LED SEL4227C-D-TP1 (0.01)	
D902	8-719-047-87	LED SEL4227C-D-TP1 (0.06)	
D903	8-719-047-87	LED SEL4227C-D-TP1 (0.15)	
D904	8-719-047-87	LED SEL4227C-D-TP1 (0.4)	
D905	8-719-047-87	LED SEL4227C-D-TP1 (1)	
D906	8-719-047-87	LED SEL4227C-D-TP1 (3)	
D907	8-719-047-87	LED SEL4227C-D-TP1 (10)	
D908	8-719-047-87	LED SEL4227C-D-TP1 (30)	
D909	8-719-047-87	LED SEL4227C-D-TP1 (60)	
D910	8-719-047-87	LED SEL4227C-D-TP1 (125)	
D951	8-719-047-87	LED SEL4227C-D-TP1 (0.01)	
D952	8-719-047-87	LED SEL4227C-D-TP1 (0.06)	
D953	8-719-047-87	LED SEL4227C-D-TP1 (0.15)	
D954	8-719-047-87	LED SEL4227C-D-TP1 (0.4)	
D955	8-719-047-87	LED SEL4227C-D-TP1 (1)	
D956	8-719-047-87	LED SEL4227C-D-TP1 (3)	
D957	8-719-047-87	LED SEL4227C-D-TP1 (10)	
D958	8-719-047-87	LED SEL4227C-D-TP1 (30)	
D959	8-719-047-87	LED SEL4227C-D-TP1 (60)	
D960	8-719-047-87	LED SEL4227C-D-TP1 (125)	
		< IC >	
IC901	8-759-917-42	IC IR2E31A	
IC902	8-759-917-42	IC IR2E31A	
IC951	8-759-917-42	IC IR2E31A	
IC952	8-759-917-42	IC IR2E31A	
		< TRANSISTOR >	
Q505	8-729-900-63	TRANSISTOR DTA124ES	
Q506	8-729-900-36	TRANSISTOR DTC124ES	
Q903	8-729-140-93	TRANSISTOR 2SB733-34	
Q904	8-729-900-36	TRANSISTOR DTC124ES	
		< RESISTOR >	
R901	1-249-402-11	CARBON 56 5% 1/4W	
R902	1-249-441-11	CARBON 100K 5% 1/4W	
R903	1-249-402-11	CARBON 56 5% 1/4W	
R904	1-249-429-11	CARBON 10K 5% 1/4W	
R905	1-249-441-11	CARBON 100K 5% 1/4W	
R906	1-249-417-11	CARBON 1K 5% 1/4W	
R907	1-249-431-11	CARBON 15K 5% 1/4W	
R908	1-249-424-11	CARBON 3.9K 5% 1/4W	
R909	1-249-429-11	CARBON 10K 5% 1/4W	
R910	1-249-429-11	CARBON 10K 5% 1/4W	
R911	1-247-807-31	CARBON 100 5% 1/4W	
R912	1-249-416-11	CARBON 820 5% 1/4W	
R913	1-249-417-11	CARBON 1K 5% 1/4W	
R914	1-249-417-11	CARBON 1K 5% 1/4W	
R951	1-249-402-11	CARBON 56 5% 1/4W	
R952	1-249-441-11	CARBON 100K 5% 1/4W	
R953	1-249-402-11	CARBON 56 5% 1/4W	
R954	1-249-429-11	CARBON 10K 5% 1/4W	
R955	1-249-441-11	CARBON 100K 5% 1/4W	
R956	1-249-417-11	CARBON 1K 5% 1/4W	
R957	1-249-431-11	CARBON 15K 5% 1/4W	
R958	1-249-424-11	CARBON 3.9K 5% 1/4W	
		< SWITCH >	
S901	1-692-479-11	SWITCH, ROTARY (RANGE)	
S902	1-692-479-11	SWITCH, ROTARY (SPEAKERS)	
**********			
*	1-652-032-11	POWER SW BOARD	
		**********	
*	1-533-213-31	HOLDER, FUSE	
		< CAPACITOR >	
⚠C1	1-161-744-51	CERAMIC 0.01uF 400V	
		< CONNECTOR >	
CNP1	1-564-321-00	PIN, CONNECTOR 2P	
		< FUSE >	
⚠F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
⚠F1	1-532-350-00	FUSE (T4.0AL) (MX)	
⚠F2	1-567-228-31	FUSE (H.B.C) (T2.0AH)	
		< SWITCH >	
⚠S1	1-554-920-51	SWITCH, PUSH (AC POWER) (1 KEY) (POWER)	
		< BASE POST >	
* TM1	1-535-142-00	BASE POST 19MM (10MM PITCH) 5P	
**********			
*	1-652-031-11	RELAY BOARD	
		**********	
		< CAPACITOR >	
C111	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C112	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C161	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C162	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	
C209	1-136-163-00	FILM (G, IT) 0.068uF 5% 50V	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
C210	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C259	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C260	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C304	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
C305	1-136-163-00	FILM (G, IT)	0.068uF	5%	50V	
		< CONNECTOR >				
* CN108	1-564-515-11	PLUG, CONNECTOR 12P				
CN111	1-564-517-11	PLUG, CONNECTOR 2P				
* CN702	1-569-493-11	SOCKET, CONNECTOR 7P				
		< JACK >				
J902	1-766-332-11	JACK, PIN 2P (REAR) (EXCEPT AEP, G, IT, CIS)				
		< COIL >				
L101	1-420-872-00	COIL, AIR CORE				
L102	1-420-872-00	COIL, AIR CORE				
		< RESISTOR >				
R115	1-249-397-11	CARBON	22	5%	1/4W	
R126	1-247-727-11	CARBON (G, IT)	10	5%	1/2W	
R165	1-249-397-11	CARBON	22	5%	1/4W	
R176	1-247-727-11	CARBON (G, IT)	10	5%	1/2W	
R208	1-249-393-11	CARBON	10	5%	1/4W	(G, IT)
R258	1-249-393-11	CARBON	10	5%	1/4W	(G, IT)
R307	1-249-393-11	CARBON	10	5%	1/4W	(G, IT)
R1150	1-249-397-11	CARBON	22	5%	1/4W	
R1650	1-249-397-11	CARBON	22	5%	1/4W	
		< TERMINAL >				
TM101	1-537-552-11	TERMINAL, PUSH (8P) (SPEAKER) (AEP, G, IT, CIS)				
TM102	1-537-551-11	TERMINAL, PUSH (2P) (CENTER SPEAKER)				
TM103	1-537-743-11	TERMINAL BOARD (4P) (SPEAKER) (EXCEPT AEP, G, IT, CIS)				
**********						
*	1-652-034-11	SENSOR BOARD **********				
		< CAPACITOR >				
C607	1-164-159-11	CERAMIC	0.1uF		50V	

Ref. No.	Part No.	Description				Remark
		< IC >				
IC602	8-759-947-34	IC LM35DZ				
		< RESISTOR >				
R612	1-247-807-31	CARBON	100	5%	1/4W	
**********						
*	1-652-033-11	SYSTEM CONNECTOR BOARD **********				
		< CONNECTOR >				
* CN703	1-566-859-11	SOCKET, CONNECTOR 15P (SYSTEM CONTROL 2)				
* CN704	1-566-858-31	SOCKET, CONNECTOR 11P (SYSTEM CONTROL 3)				
CN705	1-564-511-11	PLUG, CONNECTOR 8P				
		< RESISTOR >				
R706	1-249-393-11	CARBON	10	5%	1/4W	
**********						
*	1-652-030-11	TRANSFORMER SECONDARY BOARD **********				
*	1-533-213-31	HOLDER, FUSE				
		< CAPACITOR >				
C701	1-136-177-00	FILM	1uF	5%	50V	
C702	1-136-177-00	FILM	1uF	5%	50V	
C706	1-124-920-11	ELECT	330uF	20%	63V	
C707	1-126-233-11	ELECT	22uF	20%	50V	
C708	1-124-122-11	ELECT	100uF	20%	50V	
C709	1-124-994-11	ELECT	100uF	20%	10V	
C712	1-136-161-00	FILM	0.047uF	5%	50V	
C713	1-136-161-00	FILM	0.047uF	5%	50V	
C714	1-162-306-11	CERAMIC (G, IT)	0.01uF	20%	16V	
C717	1-161-494-00	CERAMIC (G, IT)	0.022uF		25V	
C718	1-136-177-00	FILM	1uF	5%	50V	
C719	1-136-177-00	FILM	1uF	5%	50V	
C801	1-136-175-00	FILM	0.68uF	5%	50V	
C802	1-136-175-00	FILM	0.68uF	5%	50V	
		< CONNECTOR >				
* CN701	1-569-502-11	PIN, CONNECTOR 7P				
		< DIODE >				
D704	8-719-200-77	DIODE 10E2N				
D705	8-719-934-22	DIODE HZS30-2L				
D706	8-719-014-88	DIODE UZP-6.8BC				

TRANSFORMER SECONDARY VOLTAGE SELECTION

Ref. No.	Part No.	Description	Remark
D801	8-719-510-53	DIODE D4SB60L	
		< FUSE >	
⚠F701	1-532-203-00	FUSE (T2.0AL)	
⚠F702	1-532-203-00	FUSE (T2.0AL)	
⚠F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
⚠F802	1-532-203-00	FUSE, TIME-LAG (T3.15AL)	
		< TRANSISTOR >	
Q701	8-729-141-83	TRANSISTOR 2SB1094-LK	
		< RESISTOR >	
⚠R703	1-212-934-00	FUSIBLE 1 5% 1/2W F	
R704	1-249-425-11	CARBON 4.7K 5% 1/4W	
R705	1-247-761-11	CARBON 5.6K 5% 1/2W	
**********			
*	1-652-036-11	VOLTAGE SELECTION BOARD (E, EA, MY, SP, JE)	
		**********	
		< CONNECTOR >	
* CN2	1-573-565-11	PIN, CONNECTOR 5P (E, EA, MY, SP, JE)	
		< SWITCH >	
⚠S2	1-572-009-11	SELECTOR, VOLTAGE (VOLTAGE SELECTOR) (E, EA, MY, SP, JE)	
**********			

Ref. No.	Part No.	Description	Remark
		MISCELLANEOUS	
		**********	
7	1-590-239-31	WIRE, FLAT TYPE (7 CORE)	
⚠63	1-751-355-11	CORD, POWER (AUS)	
⚠64	1-575-654-11	CORD, POWER (AEP, G, IT, EA, MY, SP, CIS)	
⚠65	1-575-656-11	CORD, POWER (E, MX, JE)	
⚠CNJ1	1-251-078-11	OUTLET, AC (AC OUTLET) (AUS)	
⚠CNJ1	1-526-794-11	OUTLET, AC (AC OUTLET) (AEP, G, IT, EA, MY, SP, CIS)	
⚠CNJ1	1-526-882-00	OUTLET, AC (AC OUTLET) (E, MX, JE)	
⚠F1	1-532-203-00	FUSE (T2.0AL) (EXCEPT MX)	
⚠F1	1-532-350-00	FUSE (T4.0AL) (MX)	
⚠F2	1-576-228-31	FUSE (H.B.C.) (T2.0AH)	
⚠F701	1-532-203-00	FUSE (T2.0AL)	
⚠F702	1-532-203-00	FUSE (T2.0AL)	
⚠F801	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
⚠F802	1-532-237-00	FUSE, TIME-LAG (T3.15AL)	
M901	1-698-380-11	MOTOR, FAN (DC)	
⚠T1	1-426-722-11	TRANSFORMER, POWER (AEP, G, IT, CIS)	
⚠T1	1-426-723-11	TRANSFORMER, POWER (E, AUS, EA, MY, SP, JE)	
⚠T1	1-426-857-11	TRANSFORMER, POWER (MX)	

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****
HARDWARE LIST
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#1	7-621-849-00	SCREW (BV/RING)
#2	7-682-547-09	SCREW +BVTT 3X6 (S)
#3	7-682-548-04	SCREW +BVTT 3X8 (S)
#4	7-682-560-04	SCREW +BVTT 4X6 (S)
#5	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S
#6	7-685-646-81	SCREW +BVTP 3X8 TYPE2
#7	7-685-650-79	SCREW +BVTP 3X16 TYPE2

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ACCESSORIES & PACKING MATERIALS
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*	4-965-421-02	CUSHION

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Home A & V Products Div.

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